

Factor VII Deficiency Patients: 5 Year Factors Concentrates Utilization Trend based on the Canadian Hemophilia Assessment and Resource Management System (CHARMS)



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BACKGROUND & OBJECTIVES

Factor VII (FVII) deficiency is a rare autosomal recessive bleeding disorder, affecting both females and males. It is associated with various types of bleeds depending on the severity of the deficiency, such as epistaxis, bleeding after dental extraction, menorrhagia, heavy bleeding after circumcision, hemarthrosis and central nervous system bleeding. Regular infusions of FVII concentrates (FC), either recombinant (rFVIIa) or plasma-derived (pdFVII) may be needed to treat (on-demand) or prevent (prophylaxis) bleeds[1-3]. Inaccessibility to treatment (prophylaxis and on-demand) can have devastating consequences for these patients. This survey aims to identify FVII deficiency patients who received treatment and the respective amount and type of FC infused from 2008 to 2012.

METHODS

The Canadian Hemophilia Assessment and Resource Management System (CHARMS) tracks the use of FC by patients in hospitals and at home. All 26 Canadian Hemophilia Treatment Centres (HTCs) received infusion data from hospitals and patients' bleed diaries. HTCs exported their local CHARMS data to the national CHARMS database.

RESULTS

From 2008 to 2012, data for 55 different FVII deficiency patients were sent to CHARMS. There were 32 (60%) males and 17 patients (33%) with infusions data available for these five years. Over 5 years, CHARMS tracked the infusions of **5,614,800 UI of pdFVII** and **5,838,004 mcg of rFVIIa**.

A total of **30** patients infused pdFVII, **21** infused rFVIIa and **three** patients infused both FC.

The yearly total pdFVII infused increased from **994,800 UI** in 2008 (19 patients) to **1,411,200 UI** in 2012 (24 patients) (**Fig 1**).

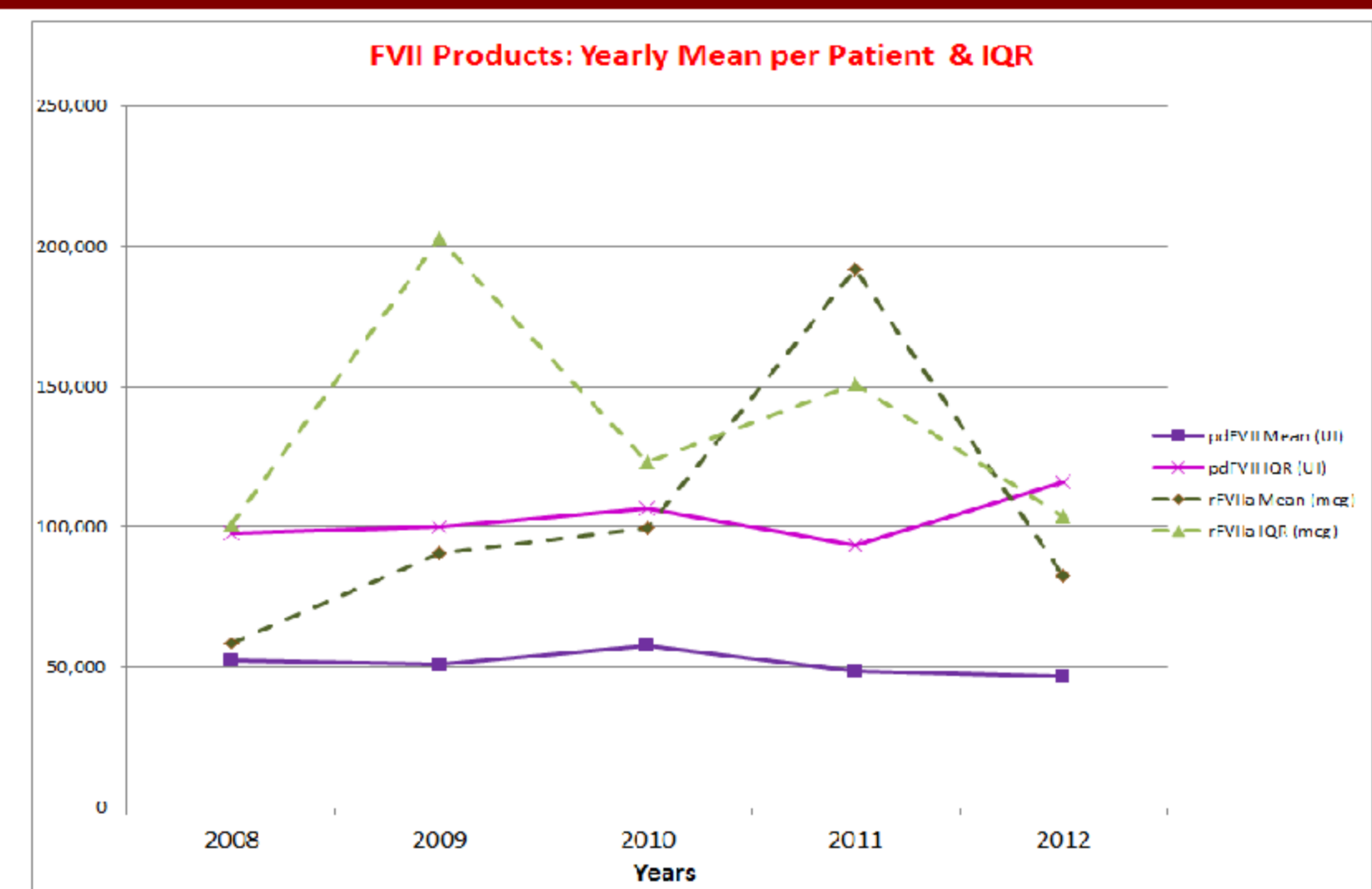


Figure 2: Yearly Mean per Patient & IQR

The average per patient went from **52,358 units (IQR= 97,800)** in 2008 to **47,070 units (IQR= 96,600)** in 2012.

For rFVIIa, the total units infused went from **588,004 mcg** in 2008 (10 patients) to **1,158,000 mcg** in 2012 (14 patients). The average mcg of rFVIIa infused yearly per patient went from **58,800 mcg (IQR=100,800)** in 2008 to **82,714 mcg (IQR=104,000)** in 2012 (**Fig 2**).

Most of the yearly amount of both recombinant and plasma derived FC were infused for prophylaxis (**over 85%**) during this survey period.

The proportion of pdFVII infused for bleeding decreased from **12%** in 2008 to **2%** in 2012; that proportion was always below 10% for rFVIIa (**Fig 3**).

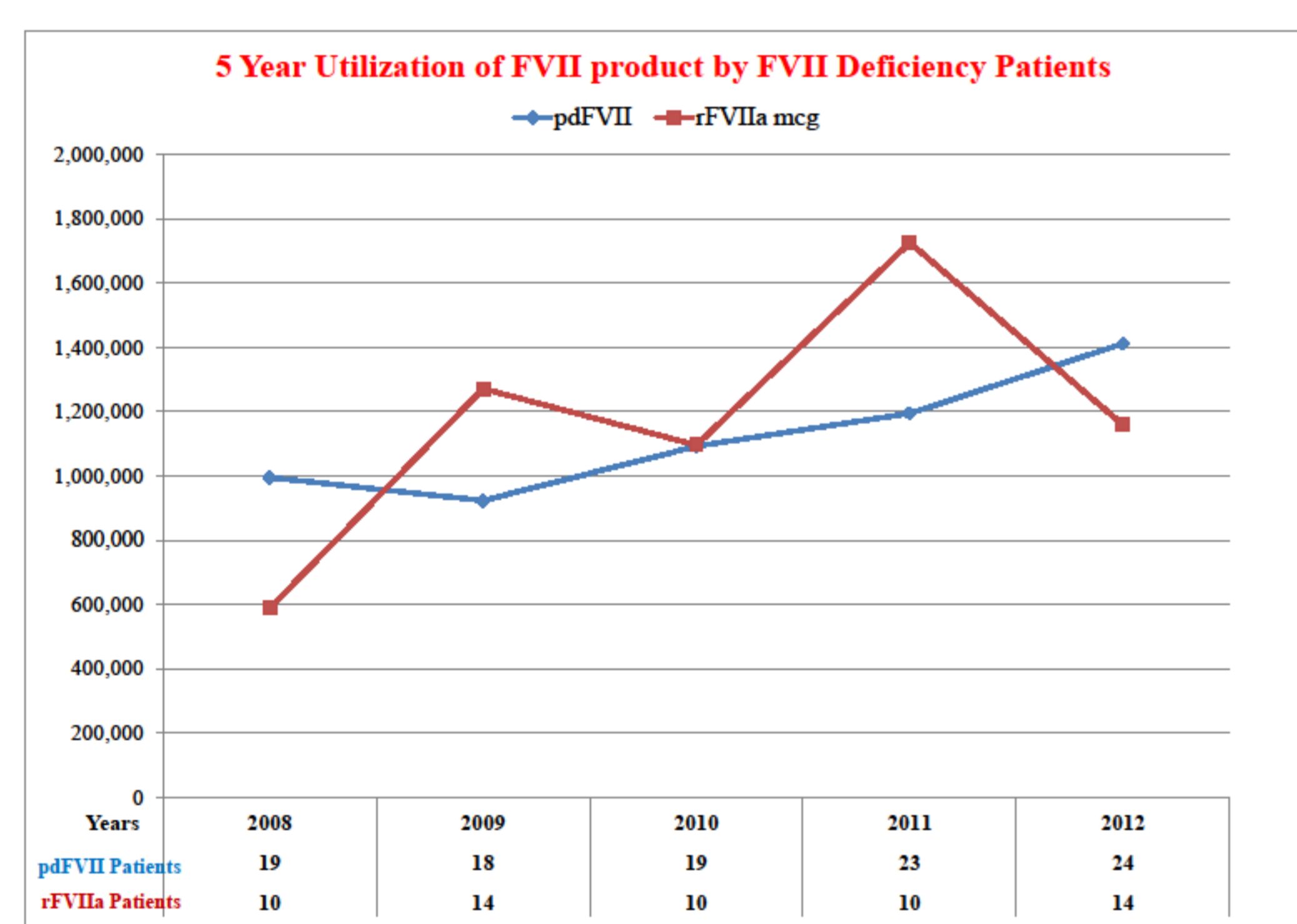


Figure 1: 5 Year Utilization of FVII product

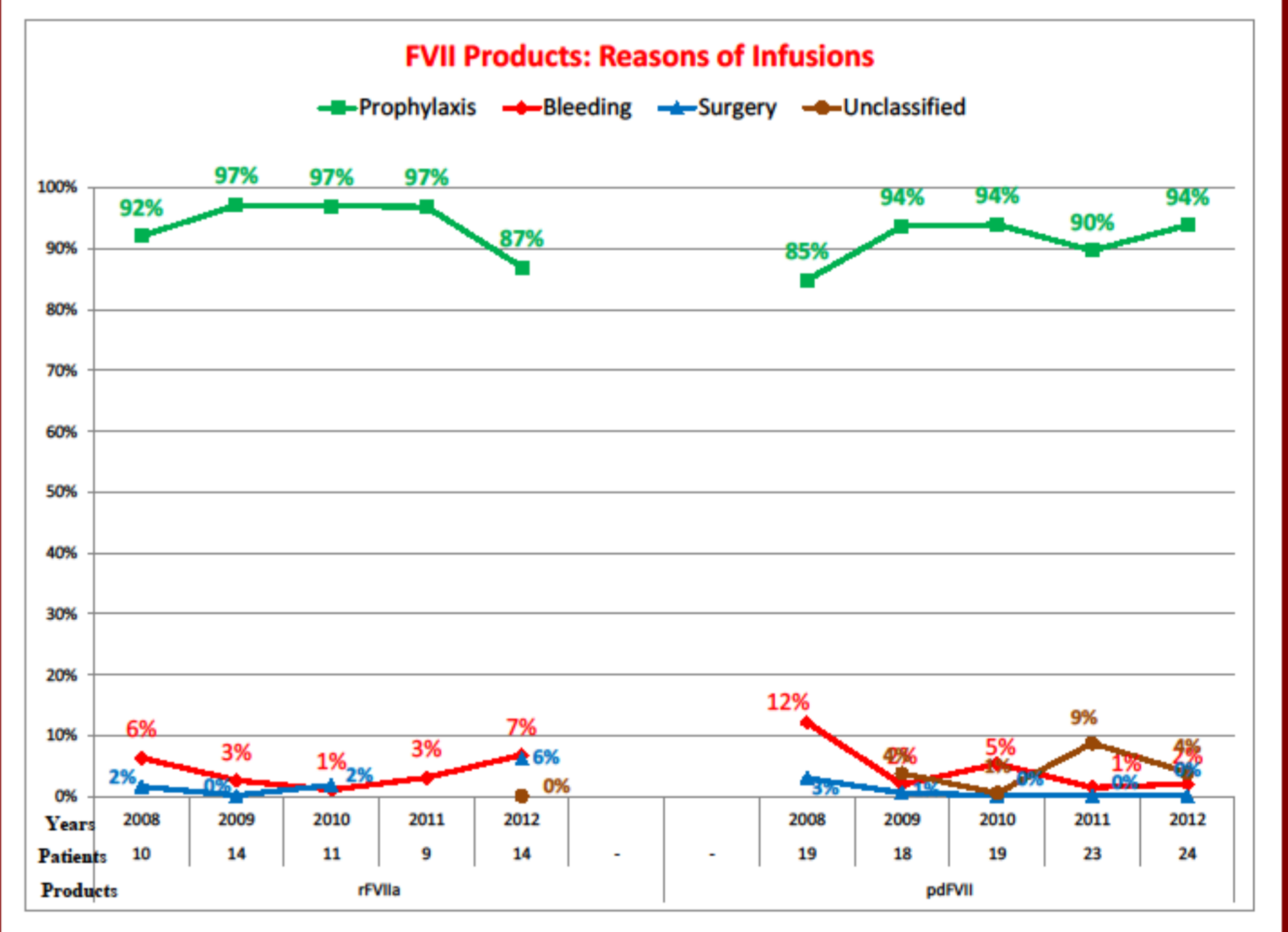


Figure 3: Reasons of Infusions

CONCLUSIONS

This analysis showed a **97%** increase in the amount of rFVIIa amount infused but also a **42%** increase in pdFVII over these 5 years. Both products were mostly infused for prophylaxis. The longitudinal follow up by CHARMS of FC utilization by these rare bleeding disorder patients was able to identifying the trend in both pdFVII and rFVIIa utilization during these five years.

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